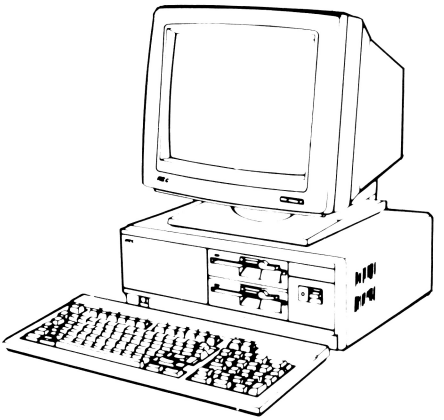
APC III



GSX-86™
User's Guide

NEC
NEC Information Systems, Inc.
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Contents

Page

Chapter 1 Overview

Introduction 1-1
GSX-86 Functions 1-1
Coordinate Transformation 1-1
Servicing Graphics Request 1-2
Device Drivers 1-2

Chapter 2 Set-up Procedures

Introduction 2-1
Starting Your System 2-1
Checking Your GSX-86 Distribution Disk 2-1
ASSIGN.SYS File 2-1
GSX.EXE File 2-1
Device Driver Files 2-2
Duplicating Your Distribution Disk 2-2
Creating a Working Disk 2-3
Listing the ASSIGN.SYS File 2-3
Logical Device Number 2-4
Device Driver Filename 2-5
Syntax Rule 2-5
Modifying the ASSIGN.SYS File 2-5

Chapter 3 GSX-86 GRAPHICS Mode

Introduction 3-1
Installing GSX-86 3-1
Disabling GSX-86 3-2
Warm and Cold Starts 3-3
Error Messages 3-3
Operation Checklist 3-4

Chapter 4 Device-Specific Information

Introduction 4-1
Printer Drivers 4-3
Introduction 4-3
Device Number 4-3
Linestyle 4-3
Markers 4-3
Text 4-4

Contents (cont'd)

	Page
Fill Area	4-4
Fill Styles	4-4
Cell Array	4-5
Generalized Drawing Primitives (GDPS)	4-6
Color	4-6
Escapes	4-6
Word Length	4-6
Graphic Input	4-6
Anadex DP-9001A/9501A/9625A	4-7
Centronics 351/352/353	4-8
C.Itoh 8510A	4-9
Data South DS180	4-10
Diablo C150 Color Ink Jet	4-11
DEC LA50	4-12
DEC LA100	4-13
IBM / Epson HiRes Graphic	4-14
IBM / Epson LoRes Graphic	4-15
IDS Monochrome	4-16
Mannesmann Tally MT160 HiRes	4-17
NEC PC8023-A	4-18
NEC Pinwriter P2-2/P3-2	4-19
NEC Pinwriter P2-3/P3-3	4-20
OKIDATA Microline	4-21
Philips GP 300L HiRes	4-22
Philips GP 300L LoRes	4-23
Printronix MVP	4-24
Transtar Color	4-25
Plotter Drivers	4-26
Introduction	4-26
Device Number	4-26
Linestyle	4-26
Markers	4-26
Hewlett Packard 7470A/7475A	4-27
Houston Instruments DMP-29/4X	4-28
Strobe 100/200/260	4-29
Other NEC-Supported Devices	4-30
Mouse Support	4-30
Joystick Support	4-30

Illustrations

Figure	Title	Page
1-1	GSX-86 Provides Device-Independent Graphics	1-2
2-1	Display of ASSIGN.SYS File in Drive A	2-4
2-2	Display of ASSIGN.SYS File in Drive B	2-6
4-1	Printer Hatch Patterns	4-5
4-2	Printer Halftone Patterns	4-5

Tables

Table	Title	Page
2-1	Logical Device Number Assignments	2-4
4-1	Device Driver Quick Reference Table	4-2
4-2	Printer Linestyles	4-3
4-3	Printer Marker Sizes	4-4
4-4	Printer Hatch Patterns	4-4
4-5	Plotter Linestyles	4-26
4-6	Plotter Marker Sizes	4-26
A-1	GSX-86 Error Messages	A-1

Preface

This guide explains the features and operating procedures of GSX-86™, the Graphics System Extension for the MS-DOS operating system.

This guide is for you if you are a new user of GSX-86. It will help you set-up your system to run your GSX-86 graphic application programs on any printer, plotter, or monitor you select.

If you are a systems or an applications programmer familiar with the MS-DOS operating system, this guide provides you with a list of device drivers.

GSX-86 is a program that adds graphic capability to your MS-DOS operating system. With GSX-86 installed, the following features are added to your system.

- GSX-86 provides a device-independent software interface for application programs written for GSX-86. This means that all graphic output devices look the same to your GSX-86 application program. Thus, if you decide to use a printer instead of a plotter, you do not need to alter your GSX-86 application program.
- GSX-86 promotes software portability. By using the same architecture as the MS-DOS operating system, GSX-86 allows you to easily transfer GSX-86 graphic application programs from one computer to another.
- GSX-86 supports DR Graph™ and DR Draw™. DR Graph allows you to graph and plot data by making simple menu selections. DR Draw allows you to draw complex graphics with your computer.

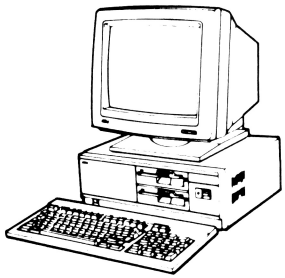
This guide is divided into four chapters.

Chapter 1 is an overview of GSX-86 that describes GSX-86 and how your system uses it.

Chapter 2 explains set-up procedures for the first time you use GSX-86, and for changing the graphic devices on your system.

Chapter 3 describes how to install GSX-86 before you use a graphic application program. It also contains an operation checklist.

Chapter 4 lists device-dependent information for all the graphic devices supported by this release of GSX-86.



Chapter 1

Overview

INTRODUCTION

This section describes GSX-86 and how it operates with your computer system. The concepts in this chapter provide background information for the operating procedures in the next two sections.

GSX-86 FUNCTIONS

All graphic devices (monitors, printers, and plotters) draw lines, fill in areas, and produce text differently. GSX-86, the Graphic System Extension to MS-DOS manages these device differences and ensures that your GSX-86 graphic application programs can communicate with a variety of graphic output devices.

Coordinate Transformation

When you communicate to your graphic device through GSX-86, all graphic images are represented in a two-dimensional, cartesian coordinate system. GSX-86 transforms the coordinates of lines and text from the GSX-86 application program into the coordinates used by the selected output device. With GSX-86, your application program produces the same graphic image on your printer that appears on your monitor; the linestyles, characters, and so forth appear the same on both devices.

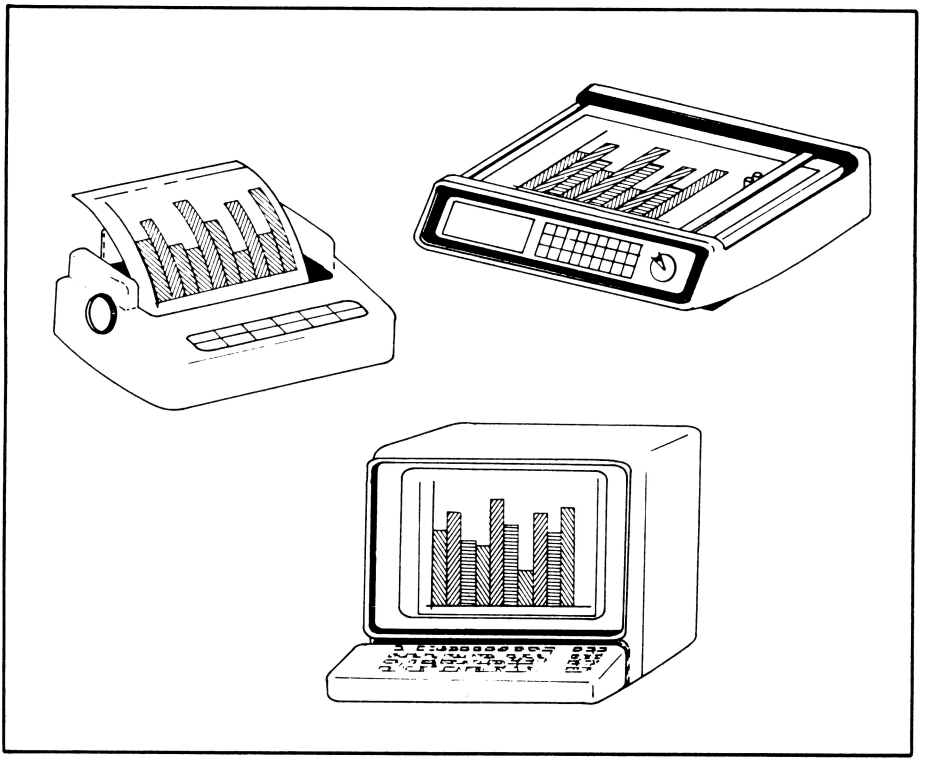


Figure 1-1 GSX-86 Provides Device-Independent Graphics

Servicing Graphic Requests

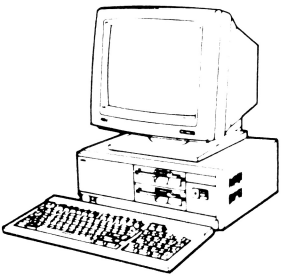
Application programs written for GSX-86 work with GSX-86 through a standard graphic interface. GSX-86 translates the calls generated by the application program to fit the peculiarities of each output device. This means that GSX-86 graphic application programs can run on a wide range of monitors, plotters, and printers.

Device Drivers

Because each graphic device is mechanically and electronically different, each device requires a special program to establish communication between it and GSX-86. This program is called a device driver.

The device drivers define the types of graphic output devices your computer can operate. The GSX-86 ASSIGN.SYS file, described in Chapter 2, contains the device driver filename for each output device attached to your

computer. If you decide to connect another type of printer to your system, simply change the printer device driver in your ASSIGN.SYS file. Chapter 4 lists the device drivers that you receive with GSX-86.



Chapter 2

Set-Up Procedures

INTRODUCTION

This chapter describes the procedures for the following:

- installing GSX-86 the first time you use GSX-86 with your system
- modifying the ASSIGN.SYS file when you change the type of devices attached to your computer.

STARTING YOUR SYSTEM

Set up the printer, plotter, monitor, and any other hardware for your system. Your computer hardware manual explains how to install and start your system.

CHECKING YOUR GSX-86 DISTRIBUTION DISK

Insert the GSX-86 distribution disk into one of your computer's disk drives. Use the DIR command documented in your *MS-DOS User's Guide* to list the contents of the disk.

Your disk should contain the following files:

- ASSIGN.SYS
- GSX.EXE
- at least one device driver file for each monitor, printer, or plotter connected to your computer

ASSIGN.SYS File

ASSIGN.SYS is the device driver assignment file. It contains the list of device drivers that operate your computer's graphic output devices.

GSX.EXE File

GSX-EXE is the file that contains GSX-86.

Device Driver Files

As explained in Chapter 1, device drivers are programs that allow your computer to operate with the specific graphic output devices connected to it. Ensure that all of the following device driver files are on your distribution disk.

- DDAPCIII.SYS
- DC3ANADX.SYS
- DC3CNTRX.SYS
- DC3CITOH.SYS
- DC3DS180.SYS
- DC3DIABC.SYS
- DC3LA50.SYS
- DC3LA100.SYS
- DC3EPSNH.SYS
- DC3EPSNL.SYS
- DC3IDSM.SYS
- DC3MTLYH.SYS
- DDNECP22.SYS
- DDNECP23.SYS
- DC3OKI92.SYS
- DC3PHLIP.SYS
- DC3PHILR.SYS
- DC3PRINT.SYS
- DC3TSTAR.SYS
- DDHP7472.SYS
- DDHIDMP2.SYS
- DDSTR2X2.SYS

If any files are missing, ask your distributor for a new disk.

DUPLICATING YOUR DISTRIBUTION DISK

If all of the device driver files are present, make a duplicate copy of your distribution disk. See your *MS-DOS User's Guide* for instructions on how to copy disks.

After making a duplicate disk, store your distribution disk in a safe place, away from extreme heat, temperature changes, humidity, and dust.

CREATING A WORKING DISK

Turn to the Device Driver Quick Reference Table in Chapter 4 and look up the device driver filename for each graphic output device connected to your computer. Use the COPY utility in your *MS-DOS User's Guide* to copy these specific device driver files, along with ASSIGN.SYS and GSX.EXE from your duplicate disk to a working disk.

For example, if you have a Centronics 351 printer, you would copy the following files from your duplicate disk to your working disk:

- DDAPCIII.SYS
- DC3CNTXM.SYS
- ASSIGN.SYS
- GSX.EXE

If your computer is equipped with a fixed disk drive (hard disk), copy the necessary device driver files, GSX.EXE, ASSIGN.SYS, and your application programs onto the fixed disk.

NOTE

Always use your duplicate disk to make copies of GSX-86 files. Do not use the distribution disk for routine operations.

LISTING THE ASSIGN.SYS FILE

Insert your working disk into your computer's currently logged disk drive and list the ASSIGN.SYS file by entering

```
A>TYPE ASSIGN.SYS
```

The letter preceding the system prompt denotes the currently logged disk drive. In the example above, drive A is the currently logged drive.

A list similar to the following appears on the screen.

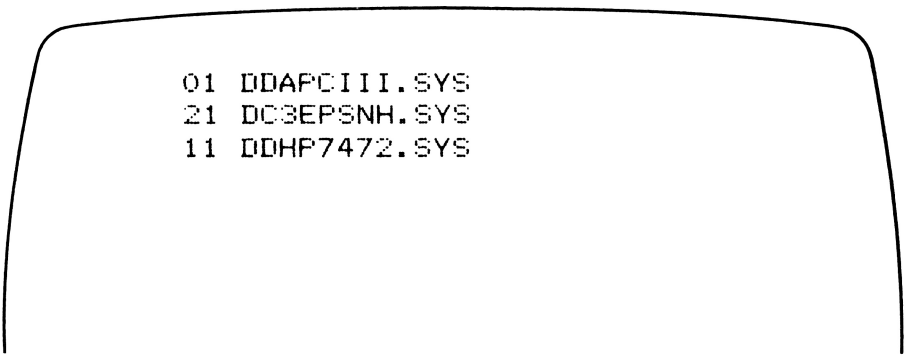


Figure 2-1 Display of ASSIGN.SYS File in Drive A

Logical Device Number

Look at the specific entries in your ASSIGN.SYS file. The number at the beginning of each line is the logical device number; it must contain two digits. The range of logical device numbers is fixed for various types of devices as shown in the following table.

Table 2-1 Logical Device Number Assignments

OUTPUT DEVICE	LOGICAL DEVICE NUMBER RANGE
Monitor	01-10
Plotter	11-20
Printer	21-30

The device numbers you assign to the device drivers in your ASSIGN.SYS file must match those used in your GSX-86 graphics application program. As a general rule, assign 01 to your monitor, 11 to your plotter and 21 to your printer. However, this may vary depending on the GSX-86 application program you have.

Device Driver Filename

Following the logical device number is the filename of the device driver. See Chapter 4 for a list of device drivers and their filenames.

Syntax Rule

Each ASSIGN.SYS entry consists of a two-digit logical device number, a blank space, and a device driver filename. If no filetype is specified after the device driver filename, GSX-86 assumes the filetype is SYS.

MODIFYING THE ASSIGN.SYS FILE

Before GSX-86 can be used, you must ensure that the device drivers listed in the ASSIGN.SYS file are the correct ones for your computer system. Turn to the Device Driver Quick Reference Table in Chapter 4 and look up the device driver filename for each graphic output device connected to your computer. If the device driver filenames listed in the ASSIGN.SYS file do not match those listed in Chapter 4, you must modify the ASSIGN.SYS file before you use GSX-86.

To alter logical device numbers or device driver filenames in the ASSIGN.SYS file, use a text editor to edit the ASSIGN.SYS file. For editing instructions, see the user's guide for the editor you are using.

Follow these guidelines when you edit your ASSIGN.SYS file.

- Ensure that the largest device driver is listed first in your ASSIGN.SYS file. The device drivers are loaded into memory in the order listed in the ASSIGN.SYS file. Loading the largest device driver first ensures enough room is reserved for any of the other drivers in the ASSIGN.SYS file.

  Typically, the device driver file used for your printer is the largest; the driver file for your plotter is the next largest; and the driver file for your monitor is the smallest. If in doubt, see your *MS-DOS User's Guide* for the command used to determine the size of your files.

- If your disk does not have sufficient storage space for the ASSIGN.SYS file and the device driver files, you can put them on separate disks. If you do put your device driver files on a different disk than your ASSIGN.SYS file, you must modify the

ASSIGN.SYS file to specify which drive contains the disk with the device driver files. This is done using the following format:

<Device Number> <Disk Drive>: <Filename>

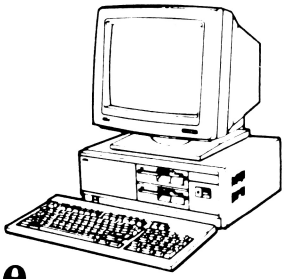
For example, if the disk containing the ASSIGN.SYS file is in drive A and the disk containing the device driver files is in drive B, your ASSIGN.SYS file would look like the following:

```
01 B:DDAPCIII.SYS
21 B:DC3EPSNH.SYS
11 B:DDHP7472.SYS
```

Figure 2-2 Display of ASSIGN.SYS File in Drive B.

- You can include up to 5 device drivers in your ASSIGN.SYS file.

Chapter 3



GSX-86 Graphics Mode

INTRODUCTION

This chapter explains how to install GSX-86 before you use a graphic application program.

INSTALLING GSX-86

The GSX command installs GSX-86. Before you can use a graphic application program, you must load GSX-86 and the first device driver from your ASSIGN.SYS file into your computer's memory. Typing GSX loads both into memory.

After you start your system and receive the system prompt, type a command of the form:

<d>:GSX

The <d> symbol represents the letter of the drive in which the GSX-86 working disk is located.

For example, if you type

A>**A:GSX**

the computer searches drive A for the disk containing GSX.EXE and the ASSIGN.SYS file.

If you type

A>**B:GSX**

the system searches drive B for the disk containing GSX.EXE and the ASSIGN.SYS file.

If you type

B>**GSX**

without specifying a drive, the system searches the disk in the currently logged-in drive. The letter before the ">" prompt indicates which disk drive is currently logged in and being accessed. The B>GSX command tells the system to search drive B for the disk containing GSX.EXE and the ASSIGN.SYS file.

When you install GSX-86 correctly, you receive the message:

GSX-86 installed; <filename> is dddd bytes long at XXXX.0000

Here <filename> is the filename of the first device driver in the ASSIGN.SYS file and dddd is its size, which you should note for making any changes to the ASSIGN.SYS file. For details on the ASSIGN.SYS file, see Chapter 2, Modifying the ASSIGN.SYS File.

DISABLING GSX-86

When you are not using graphics, you can disable GSX-86 by typing:

A>**GSX NO**

This command frees the memory space formerly used by GSX-86 and the device driver.

When you disable GSX-86 correctly, you receive the message:

GSX-86 not installed

You might also receive this message if something prevents you from installing GSX-86.

WARM AND COLD STARTS

If you are running an application program and you decide to terminate the run, you can exit the program by

- Pressing both the CTRL key and C key at the same time. This is called a warm start of your computer and it will not disturb the GSX-86 installation.
- Restarting your computer by either turning it off and back on again, or pressing its reset button. This is called a cold start, which disables both MS-DOS and GSX-86. To reinstall GSX-86, you must reboot MS-DOS and reenter the GSX command.

ERROR MESSAGES

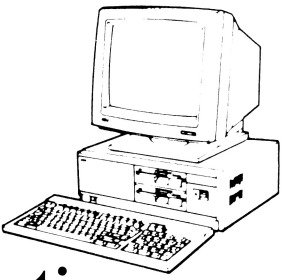
If you type the GSX command incorrectly, you will get the message "BAD COMMAND OR FILE NAME." If you receive such a message, check the exact command syntax and type the command again. If you continue to receive this error message, use the DIR command to list the contents of your currently logged disk. If the GSX.EXE file is not on the disk, locate the correct disk, insert it into the currently logged drive, and reenter the GSX command.

If you make an error after entering GSX-86, an error message appears on your screen. Refer to Appendix A for a definition of the error messages and the recommended action for recovery.

OPERATION CHECKLIST

- ☐ Are the hardware components properly attached to your computer?
- ☐ Does the distribution disk contain the files you need?
- ☐ Did you duplicate the distribution disk and store it safely away from heat, extreme temperature changes, dust, and humidity?
- ☐ Is the disk containing GSX.EXE, ASSIGN.SYS, and the correct device drivers on the drive you specify in the GSX command?
- ☐ If you have your device drivers and your ASSIGN.SYS file on separate disks, does your ASSIGN.SYS file specify which drive contains the disk with your device drivers?
- ☐ Is the logical device number 01 assigned to your monitor, 11 to the plotter, and 21 to the printer?
- ☐ Is the largest device driver listed first in the ASSIGN.SYS file?
- ☐ Have you typed the GSX command to load GSX-86 and the first driver into memory?

Chapter 4



Device-Specific Information

INTRODUCTION

This chapter describes the graphic device drivers available for GSX-86.

The first part of this chapter discusses the printer drivers and the second part discusses the plotter drivers.

For quick reference of the device driver types and the filenames associated with them, see the table on the following page.

Table 4-1 Device Driver Quick Reference Table

DISPLAY DRIVER	FILENAME	NUMBER RANGE
NEC APC III DISPLAY	DDAPCIII.SYS	01
PRINTERS	**FILENAME**	**NUMBER RANGE**
Anadex DP-9001A/9501A/9625A	DC3ANADX.SYS	
Centronics 351/352/353	DC3CNTRX.SYS	
C.Itoh 8510A	DC3CITOH.SYS	
Data South DS180	DC3DS180.SYS	
Diablo C150 Color Ink Jet	DC3DIABC.SYS	
DEC LA50	DC3LA50.SYS	
DEC LA100	DC3LA100.SYS	
IBM / Epson HiRes Graphic	DC3EPSNH.SYS	
IBM / Epson LoRes Graphic	DC3EPSNL.SYS	
IDS Monochrome	DC3IDSM.SYS	21-30
Mannesmann Tally MT160 HiRes	DC3MTLYH.SYS	
NEC PC8023-A	DC3CITOH.SYS	
NEC Pinwriter P2-2/P3-2	DDNECP22.SYS	
NEC Pinwriter P2-3/P3-3	DDNECP23.SYS	
OKIDATA Microline	DC3OKI92.SYS	
Philips GP 300L HiRes	DC3PHLIP.SYS	
Philips GP 300L LoRes	DC3PHILR.SYS	
Printronix MVP	DC3PRINT.SYS	
Transtar Color	DC3TSTAR.SYS	
PLOTTERS	**FILENAME**	**NUMBER RANGE**
Hewlett Packard HP 7470A/7475A	DDHP7472.SYS	
Houston Instruments DMP-29/4X	DDHIDMP2.SYS	11-20
Strobe 100/200/260	DDSTR2X2.SYS	

PRINTER DRIVERS

Introduction

The following information applies to all of the printer drivers listed in this chapter.

Device Number

The logical device numbers for printers range from 21 to 30. When you use only one printer, assign it device number 21.

Linestyle

The printers support six linestyles. Each linestyle is identified by an index number (see the following table). The driver uses linestyle 1, a solid line, when you specify a linestyle index number outside the 1-6 range.

Table 4-2 Printer Linestyles

INDEX	LINESTYLE
1	Solid
2	Short Dash
3	Dot
4	Dash-Dot
5	Long Dash
6	Dash-Dot-Dot

Markers

The printers support 12 marker sizes and 5 marker types.

- Marker sizes range from 7 to 84 pixels in height, in 7-pixel increments.
- Each marker type is identified by an index number (see the following table). The driver uses marker type 3 (*) when you specify a marker index number outside the 1-5 range.

Table 4-3 Printer Marker Sizes

NUMBER	MARKER
1	.
2	+
3	*
4	O
5	X

Text

The printers support 12 character sizes, from 7 to 84 pixels in height, in 7-pixel increments. Text can be rotated in 90-degree increments.

Fill Area

The area in a polygon can be filled with a hatch or halftone pattern.

Fill Styles

The printers support the following two fill patterns.

Hatch Patterns:

The printer drivers have six hatch fill patterns.

Table 4-4 Printer Hatch Patterns

INDEX	HATCH PATTERNS
1	Vertical lines
2	Horizontal lines
3	+45 degree lines
4	-45 degree lines
5	Both vertical and horizontal crosshatch
6	Both 45 and -45 degree crosshatch

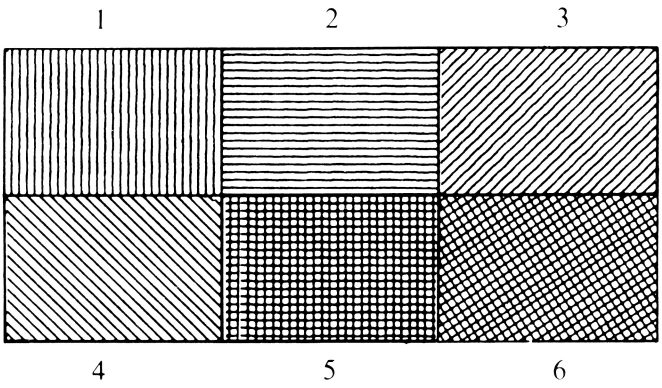


Figure 4-1 Printer Hatch Patterns

Halftone Patterns:

The printer drivers have six halftone fill patterns that simulate six different levels of the gray scale.

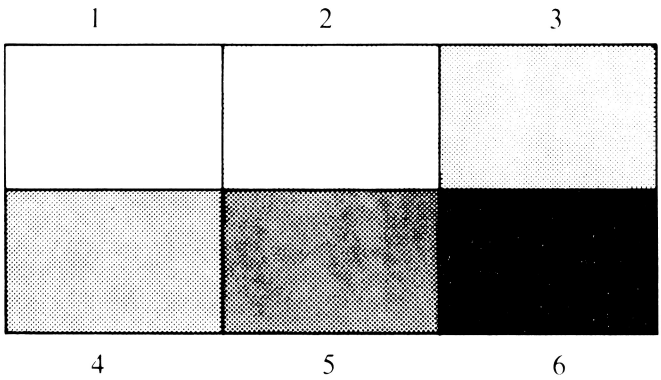


Figure 4-2 Printer Halftone Patterns

Cell Array

Printers outline the cell array in the current line color with a solid line.

Generalized Drawing Primitives (GDPS)

Printer Drivers support only the GSX-86 BAR GDP; its identifier is 1.

Color

The MONOCHROME printers support two colors:

0 = White (background color)
1 = Black

All color indexes other than 0 are displayed as index 1 (black). You cannot redefine the printer's color indexes with the GSX-86 Set Color Representation function.

Escapes

The only escape function available on the printer is the GSX-86 Inquire Addressable Character Cells function, its identifier is 1.

Word Length

Computers communicate with printers using either 7 or 8 data bits for each transmitted character. The number of data bits used for each character is called the "word length."

If your computer is connected through a parallel port to your printer, the word length your printer uses is not important. However, if your computer is connected to your printer through a serial RS-232C port, you must determine the word length used by both your computer and your printer. See your computer's hardware manual for the word length used when communicating over the serial port. The word length used by your printer should be documented in your printer's hardware manual. If your printer uses a word length of 7, your computer and the printer driver you select must also use a word length of 7. If your printer uses a word length of 8, your computer and the selected printer driver must also use a word length of 8.

Graphic Input

Printers do not support graphic input.

ANADEX PRINTERS:
MODEL DP-9001A
MODEL DP-9501A
MODEL DP-9625A

Filename	DC3ANADX.SYS
Resolution	Horizontal: 72 dots per inch Vertical: 72 dots per inch
Maximum Plot Size	8 x 10.33 inches (576 x 744 dots)

CENTRONICS PRINTERS
MODEL 351
MODEL 352
MODEL 353

Filename	DC3CNTXM.SYS
Resolution	Horizontal: 66 dots per inch Vertical: 72 dots per inch
Maximum Plot Size	8 x 10.33 inches (528 x 744 dots)

C. ITOH MODEL 8510A PRINTER

Filename	DC3CITOH.SYS
Resolution	Horizontal: 136 dots per inch (17 cpi pitch) Vertical: 72 dots per inch
Maximum Plot Size	8 x 10.33 inches (1033 x 744 dots)

DATA SOUTH DS-180 PRINTERS

Filename	DC3DS180.SYS
Resolution	Horizontal: 75 dots per inch Vertical: 72 dots per inch
Maximum Plot Size	8 x 10.33 inches (600 x 744 dots)

DIABLO C150 COLOR INK JET PRINTER

Filename	DC3DIABC.SYS
Resolution	Horizontal: 120 dots per inch Vertical: 120 dots per inch
Maximum Plot Size	8 x 10.33 inches (960 x 1232 dots)

DIGITAL EQUIPMENT CORPORATION MODEL LA50 PRINTER

Filename	DC3LA50.SYS
Resolution	Horizontal: 144 dots per inch Vertical: 72 dots per inch
Maximum Plot Size	8 x 10.33 inches (1152 x 744 dots)

DIGITAL EQUIPMENT CORPORATION MODEL LA100 PRINTER

Filename	DC3LA100.SYS
Resolution	Horizontal: 132 dots per inch Vertical: 72 dots per inch
Maximum Plot Size	8 x 10.33 inches (1056 x 744 dots)

IBM / EPSON GRAPHICS PRINTER HI RES
EPSON MODEL FX-80 / 100
EPSON MODEL MX-80 /100
IBM GRAPHICS PRINTER

Filename	DC3EPSNH.SYS
Resolution	Horizontal: 120 dots per inch Vertical: 144 dots per inch
Maximum Plot Size	8 x 10.33 inches (960 x 1488 dots)

IBM / EPSON GRAPHICS PRINTERS LO RES
EPSON MODEL FX-80 / 100
EPSON MODEL MX-80 / 100
IBM GRAPHICS PRINTER

Filename	DC3EPSNL.SYS
Resolution	Horizontal: 60 dots per inch Vertical: 72 dots per inch
Maximum Plot Size	8 x 10.33 inches (480 x 744 dots)

INTEGRAL DATA SYSTEMS MONOCHROME PRINTERS
MICRO PRISM MODEL 480
PRISM 80
PRISM 132

Filename	DC3IDSM.SYS
Resolution:	Horizontal: 84 dots per inch Vertical: 84 dots per inch
Maximum Plot Size	8 x 10.33 inches (672 x 872 dots)

MANNESMANN TALLY MT-160 HI RES MODE PRINTER

Filename	DC3MTLYH.SYS
Resolution	Horizontal: 100 dots per inch Vertical: 72 dots per inch
Maximum Plot Size	8 x 10.33 inches (800 x 744 dots)

NEC PC-8023A PRINTER

A GSX-86 device driver compatible with the NEC 8023 (H16) dot matrix printer has been provided with this release. To use the 8023 with GSX-86, select the DC3CITOH.SYS device driver.

NEC PRINTERS
PINWRITER P2-2
PINWRITER P3-2

Filename	DDNECP22.SYS
Resolution	Horizontal: 120 dots per inch Vertical: 120 dots per inch
Maximum Plot Size	8 x 10.33 inches (960 x 1240 dots)

NEC PRINTERS
PINWRITER P2-3
PINWRITER P3-3

Filename	DDNECP23.SYS
Resolution	Horizontal: 120 dots per inch Vertical: 120 dots per inch
Maximum Plot Size	8 x 10.33 inches (960 x 1240 dots)

OKIDATA PRINTERS
MICROLINE 82A
MICROLINE 83A
MICROLINE 84 Step 2
MICROLINE 92
MICROLINE 93

Filename	DC3OKI92.SYS
Resolution	Horizontal: 60 dots per inch Vertical: 72 dots per inch
Maximum Plot Size	8 x 10.33 inches (480 x 744 dots)

PHILIPS MODEL GP 300L HI RES MODE PRINTER

Filename	DC3PHLIP.SYS
Resolution:	Horizontal: 144 dots per inch Vertical: 144 dots per inch
Maximum Plot Size	8 x 10.33 inches (1152 x 1487 dots)

PHILIPS MODEL GP 300L LO RES MODE PRINTER

Filename	DC3PHILR.SYS
Resolution	Horizontal: 72 dots per inch Vertical: 72 dots per inch
Maximum Plot Size	8 x 10.33 inches (576 x 743 dots)

PRINTRONIX MVP PRINTER

Filename	DC3PRINT.SYS
Resolution	Horizontal: 60 dots per inch Vertical: 72 dots per inch
Maximum Plot Size	8 x 10.33 inches (480 x 744 dots)

TRANSTAR COLOR PRINTER

Filename	DC3TSTAR.SYS
Resolution	Horizontal: 80 dots per inch Vertical: 80 dots per inch
Maximum Plot Size	8 x 10.33 inches (640 x 820 dots)

PLOTTER DRIVERS

Introduction

The following information applies to all of the plotter drivers listed in this chapter.

Device Number

Logical device numbers for plotters range from 11 to 20. When you use only one plotter, assign it device number 11.

Linestyle

The plotters support six linestyles. Each linestyle is identified by an index number (see the following table). The driver uses linestyle 1, a solid line when you specify a linestyle number outside the 1-6 range.

Table 4-5 Plotter Linestyles

INDEX	LINESTYLE
1	Solid
2	Dot
3	Short Dash
4	Long Dash
5	Dash-Dot
6	Dash-Dot-Dot

Markers

The plotters support five marker types. Each marker type is identified by an index number (see the following table). The driver uses marker 3 (*) when you specify a marker index number outside the 1-5 range.

Table 4-6 Plotter Marker Styles

INDEX	MARKER
1	.
2	+
3	*
4	O
5	X

HEWLETT PACKARD GRAPHICS PLOTTER
MODEL 7470A
MODEL 7475A

Filename DDHP7472.SYS

Resolution Horizontal: 1000 dots per inch
Vertical: 1000 dots per inch

Maximum Plot Size 8 x 11 inches (8000 x 11000 dots)

Driver Description This driver is for the Hewlett Packard 7470A or 7475A Pen Plotters. The 7470 has two pen stables; the 7475 has six. If more colors than these are to be used within a plot, the driver will prompt the operator to change a pen. To connect the plotter the following cable wiring is suggested.

APC	HP 7470/7475	APC	HP 7470/7476
2-------3		4--5	
3-------2			4--5
7-------7		6--20	

HOUSTON INSTRUMENTS PLOTTERS
MODEL DMP-29
MODEL DMP-40

Filename DDHIDMP2.SYS

Resolution Horizontal: 1000 dots per inch
Vertical: 1000 dots per inch

Maximum Plot Size 8.5 x 11 inches (8500 x 11000 dots)

Driver Description This driver is for the Model DMP-29 and DMP-40 series Houston Instruments Pen Plotters. The DMP-29 has eight pens and the DMP-40 series have either one or two. If more colors than these are to be used within a plot, the driver will prompt the operator to change a pen. To connect the plotter the following cable wiring is suggested.

APC	HI DMP-29/4X	APC	HI DMP-29/4X
2------3		4--5	
3------2			4--5
7------7		6--20	

STROBE PLOTTER
MODEL 100
MODEL 200
MODEL 260

Filename DDSTR2X2.SYS

Resolution Horizontal: 200 dots per inch
Vertical: 200 dots per inch

Maximum Plot Size 11 x 8.5 inches (2000 x 1600 dots)

Driver Description This driver is for the Model 100/200/260 Strobe Pen Plotters. The 100/200 have one pen; the 260 has eight pens. If more colors than these are to be used within a plot, the driver will prompt the operator to change a pen. To connect the plotter the following cable wiring is suggested.

APC	STROBE	APC	STROBE
2------3		4--5	
3------2			4--5
7------7		6--20	
			6--20

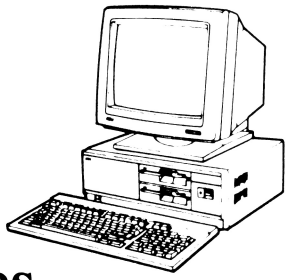
OTHER NEC-SUPPORTED DEVICES

Mouse Support

The DDAPCIII.SYS console driver for GSX-86 includes mouse support for locator input. Currently, the Mouse Systems and SummaGraphics mice are supported.

Joystick Support

The NEC joystick for the APCIII is incorporated as a valuator device (as opposed to a locator device) for DDAPCIII.SYS.



Appendix A

GSX-86 Error Messages

The following error messages might appear when you use GSX-86.

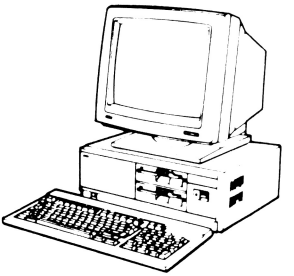
Table A-1 GSX-86 Error Messages

MESSAGE	MEANING
d:ASSIGN.SYS not found	The ASSIGN.SYS file cannot be found on the disk in the currently logged drive. Use the DIR command to list the contents of the disk. If the ASSIGN.SYS file is not on the disk, locate the disk containing the ASSIGN.SYS file; insert it into the drive; and type the GSX command.
d:ASSIGN.SYS syntax error	An entry in the ASSIGN.SYS file does not follow the syntax rule. The entry does not contain a two digit logical device number, a blank space, and a device driver filename. Edit the ASSIGN.SYS file and make the necessary corrections. Type the GSX command again.
d:ASSIGN.SYS close error	The system cannot find the file to close it. This sometimes happens when you exchange the disk that was previously in the drive with another disk. Insert the correct disk in the drive and try again.

Table A-1 GSX-86 Error Messages (cont'd)

MESSAGE	MEANING
d:ffffffff.SYS not found	One of the device driver files listed in the ASSIGN.SYS file is not on the working disk. Use the DIR command to list the contents of the working disk. Ensure that all of the device driver files listed in the ASSIGN.SYS file are present on the disk. If a device driver file listed in the ASSIGN.SYS file is on the working disk, copy the missing device driver file onto it.
d:ffffffff.SYS empty	The system found the specified device driver, but it contains no data. Delete the empty file from your working disk and recopy the original file from your duplicate disk to your working disk. For details, see Creating a Working Disk in Chapter 2.
d:ffffffff.SYS contains absolute segment	The specified device driver file attempted to address an absolute segment and cannot be loaded. This is probably the result of a corrupted driver file. Recopy the original file from your duplicate disk to your working disk.
d:ffffffff.SYS close error	An error occurred when the system closed the specified file. This probably happened because you exchanged the disk that was previously in the drive with another disk. Insert the correct disk in the drive and try again.
d:ffffffff.SYS load error	An error occurred while the system was reading the device driver file. This occurs if you fail to list the largest device driver first in the ASSIGN.SYS file. Reedit the ASSIGN.SYS file and list the largest driver first.
Not enough memory for GSX-86	Your computer does not have enough memory for GSX-86 and the default device driver. Disable unnecessary programs to free memory or add more RAM memory to your system.

Index



A

Anadex printers, 4-7
ASSIGN.SYS, 2-3
ASSIGN.SYS file, 2-1
  listing, 2-3
  modifying, 2-5
  syntax for entries, 2-5

C

Cell array, 4-5
Centronics printers, 4-8
C.Itoh printer, 4-9
Cold start, 3-3
Command syntax, 3-1, 3-2
Coordinate system, 1-1
CTRL-C, 3-3

D

Data South printers, 4-10
DC3ANADX.SYS, 4-7
DC3CITOH.SYS, 4-9
DC3CNTRX.SYS, 4-8
DC3DIABC.SYS, 4-11
DC3DS180.SYS, 4-10
DC3EPSNH.SYS, 4-14
DC3EPSNL.SYS, 4-15
DC3IDSM.SYS, 4-16
DC3LA50.SYS, 4-12
DC3LA100.SYS, 4-13
DC3MTLYH.SYS, 4-17
DC3OKI92.SYS, 4-21
DC3PHILR.SYS, 4-23
DC3PHLIP.SYS, 4-22
DC3PRINT.SYS,4-24
DC3TSTAR.SYS, 4-25
DDAPCIII.SYS, 4-2
DDHIDMP2.SYS, 4-28
DDHP7472.SYS, 4-27
DDNECP22.SYS, 4-19
DDNECP23.SYS, 4-20
DDSTR2X2.SYS, 4-29
Device driver, 2-2
  file, 2-5
  filenames, 2-5
  Quick Reference Table, 4-2
  size of, 3-2
DEC LA100-Series
  printer, 4-13
DEC LA50-Series
  printer, 4-12
Diablo printer, 4-11
Distribution disk, 2-2
  files, 2-1

E

Error messages, 3-3, A-1

F

Fill, 4-4
  area, 4-4
  halftone patterns, 4-5
  hatch patterns, 4-4
  styles, 4-4

G

Generalized Drawing
  Primitives, 4-6

GRAPHICS command, 3-1
Graphics devices, 1-1
  differences in, 1-1
GSX-86 distribution disk, 2-1
GSX-86,
  disabling, 3-2
  installing, 3-1

H

Halftone fill patterns, 4-5
Hatch fill patterns, 4-4
Hewlett Packard Graphics
  Plotter, 4-27
Houston Instruments plotters, 4-28

I

IBM/Epson printers, 4-14, 4-15
IDS printers, 4-16

L

Linestyle,
  printer, 4-3
Logical device number, 2-4, 4-3,
  4-26

M

Mannesmann Tally printer, 4-17
Marker sizes,
  printer, 4-3
Marker types, 4-3
Memory space
  freeing, 3-2
Micro PRISM, 4-16
Monitor, 1-1, 2-4

N

NEC printers,
  PC8023-A
  Pinwriters

O

OKIDATA Microline
  printers, 4-21

P

Parallel port, 4-6
Pen stable, 4-27
Philips printers, 4-22, 4-23
Plotter, 2-1, 4-26
  driver, 4-26
  linestyles, 4-17, 4-26
  markers, 4-18, 4-26
Printer, 2-1, 2-3
  escape function, 4-6
  linestyles, 4-3
  marker sizes, 4-3
Printronix printer, 4-24
PRISM, 4-16

S

Serial port, 4-6
Strobe plotter, 4-29

T

Transtar printer, 4-25

W

Warm start, 3-3
Word length, 4-6
Working disk, 2-3

APC III

NEC
NEC Information Systems, Inc.

USER'S COMMENTS FORM

Document: APC III GSX-86 User's Guide

Document No.: 819-150014-000 Rev. 02

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